Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. - 9. (Canceled)

10. (Currently Amended) A device comprising:

a first substrate;

a second substrate mounted on the first substrate by at least one pair of elongated solid state hinges, wherein the pair of solid state hinges are substantially aligned to each other in their elongated direction and are opposing to each other from different ~~disposed on opposite~~ sides of the second substrate;

at least one first elongated electrical conductor extending in a first direction located on a surface of the first substrate facing the second substrate; and

at least one second elongated electrical conductor extending in a second direction, which is the same as the first direction, located on a surface of the second substrate facing the first substrate;

wherein:

the pair of solid state hinges are integral with and linking the first and second substrates to relatively locate the first and second substrates such that the surfaces ~~of the first substrate and the surface of the second substrate~~ thereof are parallel and a gap therebetween ~~the second substrate and the first substrate~~ is maintained at about 15 nm or less such that the first and second elongated electrical conductors are opposed to each other at a distance permitting a detectable quantum tunneling current when a suitable electrical potential difference is applied between the first and second elongated electrical conductors; and

the at least one pair of solid state hinges are configured to permit a motion of the second substrate in a direction substantially parallel to the surface of the first substrate but substantially prohibit a motion of the second substrate in a direction perpendicular to the surface of the first substrate.

11. (Canceled)

12. (Previously Presented) The device of claim 10, wherein the at least one pair of solid state hinges are resilient and are dimensioned to have a stiffness in the direction of the motion substantially lower than that in a direction perpendicular to the surface of the second substrate, and wherein the pair of solid state hinges are substantially aligned with each other.

13. (Previously Presented) The device of claim 10, wherein each of the at least one pair of solid state hinges comprises at least one outstanding pillar or post from one of the first and second substrates and a web integrally joining the pillar to an edge region of the other of the first and second substrates, and wherein the pair of solid state hinges are also configured to provide electrical connections to the first and second elongated conductors.

14. (Currently Amended) The device of claim 13, wherein the webs of the at least one pair of solid state hinges are in mutual co-planar alignment, wherein the device comprises a single pair of elongated solid state hinges, and wherein the pair of elongated solid state hinges substantially point to a center portion of the second substrate.

15. (Currently Amended) The device of claim 10, wherein the second substrate has an area smaller than that of the first substrate, wherein the ~~electromechanical transducer~~ device comprises two pairs of solid state hinges, and wherein the two solid state hinges in each pair are substantially aligned.

16. (Previously Presented) The device of claim 10, wherein:
the first and second substrates are semiconductor substrates; and
the first and second elongated electrical conductors are formed using implantation.

17. (Previously Presented) The device of claim 10, wherein:
the first and second substrates are semiconductor substrates; and

the first and second elongated electrical conductors are formed using nano imprinting technology.

18. (Canceled)

19. (Previously Presented) The device of claim 10, wherein the gap is about 5 nm or less.

20. (Currently Amended) A device comprising:

a first substrate;

a second substrate mounted on the first substrate by at least one pair of elongated solid state hinges, wherein the pair of solid state hinges are substantially aligned to each other along their elongated direction and are opposing to each other from different ~~disposed on opposite~~ sides of the second substrate;

a first plurality of elongated electrical conductors extending in a first direction located on a surface of the first substrate facing the second substrate;

a second plurality of elongated electrical conductors extending in a second direction which is the same as the first direction, located on a surface of the second substrate facing the first substrate;

wherein:

the pair of solid state hinges are integral with and linking the first and second substrates to relatively locate the first and second substrates such that the surfaces ~~of the first substrate and the surface of the second substrate~~ thereof are parallel and a gap therebetween ~~the second substrate and the first substrate~~ is maintained at is about 15 nm or less such that each of the first plurality of elongated electrical conductors are located opposed to a corresponding conductor of the second plurality of elongated electrical conductors at a distance permitting a detectable quantum tunneling current when a suitable electrical potential difference is applied between the first and second elongated electrical conductors; and

the pair of solid state hinges permit a motion of the second substrate in a direction substantially parallel to the surface of the first substrate but substantially prohibits a motion of the second substrate in a direction perpendicular to the surface of the first

substrate, wherein the pair of solid state hinges are also configured to provide electrical connection to at least one of the first or second plurality of elongated electrical conductors.

21. (Canceled)

22. (Previously Presented) The device of claim 20, wherein the at least one pair of solid state hinges each comprise at least one outstanding pillar or post from one of the first and second substrates and a web integrally joining the pillar to an edge region of the other of the first and second substrates.

23. (Currently Amended) The device of claim 20, wherein the second substrate has an area smaller than that of the first substrate, wherein the device comprises a single pair of elongated solid state hinges, and wherein the pair of elongated solid state hinges substantially point to a center portion of the second substrate.

24. (Previously Presented) The device of claim 20, wherein:

the first and second substrates are semiconductor substrates; and

the first plurality and the second plurality of elongated electrical conductors are formed using implantation.

25. (Previously Presented) The device of claim 20, wherein:

the first and second substrates are semiconductor substrates; and

the first plurality and the second plurality of elongated electrical conductors are formed using nano imprinting technology.

26. (Previously Presented) The device of claim 20, further comprising three more solid state hinges mounting the second substrate on the first substrate, wherein:

the solid state hinges are equi-angularly spaced with respect to a center of the second substrate,

at least two of the solid state hinges are aligned with the center of the second substrate, and

the motion comprises an angular rotation within the plane of the second substrate.

27. (Previously Presented) The device of claim 20, wherein the motion comprises an angular rotation.

28. (Canceled)

29. (Previously Presented) The device of claim 20, wherein a gap between the second substrate and the first substrate is about 5 nm or less.

30. (Previously Presented) The device of claim 14, wherein the at least one first elongated electrical conductor and the at least one second elongated electrical conductor are a directly opposed pair aligned parallel with a plane of the webs.

31. (Previously Presented) The device of claim 22, wherein the first plurality of elongated electrical conductors and the second plurality of elongated electrical conductors are disposed in directly opposed pairs aligned parallel with a plane of the web.

32. (Previously Presented) The device of claim 13, wherein webs of the at least one pair of solid state hinges each are substantially thinner in the motion direction parallel to the surface of the first substrate than in the direction perpendicular to the surface of the first substrate.

33. (Currently Amended) A device comprising:

a first substrate;

a second substrate mounted over the first substrate by at least one pair of ~~substantially aligned~~ elongated solid state hinges, wherein the pair of solid state hinges are

substantially aligned to each other along their elongated direction and are opposing to each other from different ~~on opposing~~ sides of the second substrate;

a first elongated electrical conductor located over a surface of the first substrate facing the second substrate; and

a second elongated electrical conductor located over a surface of the second substrate facing the first substrate;

wherein:

the pair of solid state hinges are integral with and linking the first and second substrates to relatively locate the first and second substrates such that the surface of the first substrate and the surface of the second substrate are substantially parallel[[;]] and that a gap between the two surfaces is maintained at about 15 nm or less such that the first and second elongated electrical conductors have a detectable quantum tunneling current therebetween if a suitable electrical potential difference is applied between the first and second elongated electrical conductors;

the at least one pair of solid state hinges are configured to permit a motion of the second substrate in a direction substantially parallel, but not in a direction perpendicular, to the surface of the second substrate; and

the gap does not substantially vary during said motion.